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EXAMINER

NG, EUNICE

ART UNIT

PAPER NUMBER

2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/803,416

**Applicant(s)**

SINGHAL, MANOJ KUMAR

**Examiner**

Eunice Ng

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the Office Action mailed 8/21/07, Applicants have submitted an Amendment, filed 12/21/07, without amending claims, and arguing to traverse claim rejections.

### ***Response to Arguments***

2. Applicant's arguments filed 12/21/07 have been fully considered but they are not persuasive. Applicants submit that Canfield in view of Quatieri do not teach "replacing the initial phases of at least one of the frames with the ending phases of another frame," as recited in independent claims 1, 6 and 11. The Examiner respectfully disagrees. As indicated in the previous office action (mailed 8/21/07), Canfield at column 3, lines 30-67, teaches "addition, shifting, and stretching theorems." Further, in the same column, lines 4-17, discuss, "[a]ccording to the shifting theorem...phases of the components will shift linearly—proportional to both the frequency of the component and the amount of the time shift" and "[s]tretching, a method of expanding digitized data, is accomplished by placing zeros in between the data points in the time domain," which would result in replacing the initial phases of at least one of the frames with the ending phases of another frame. Therefore, the amended pending claims stay rejected over Canfield and Quatieri, and their rejection is repeated, below.

***Official Notice***

3. Any Official Notice, common knowledge or well-known in the art statement, not traversed is now taken to be Applicant's Admitted Prior Art.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 3-4, 6, 8 and 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Canfield et al. (USPN 6,266,643), hereinafter referenced as Cainfield in view of Quatieri ("Discrete-Time Speech Processing" Prentice Hall, 2002, pp. 595-597).

Regarding **claims 1, 6 and 11**, Canfield discloses a method, storage and system, hereinafter referenced as a method for changing the speed of an audio signal, said method comprising:

receiving the audio signal (audio signal; abstract with column 4, line 65 – column 5, line 16);

retrieving frames from the audio signal (frames; abstract with column 4, line 65 – column 5, line 16);

transforming the frames of the audio signal into a frequency domain (frequency domain; column 2, lines 15-34), wherein each of said frames are associated with a plurality of initial phases, and a corresponding plurality of ending phases (column 3, lines 30-67); and

replacing the initial phases of at least one of the frames with the ending phases of another frame (column 3, lines 30-67), does not specifically teach “receiving the **encoded** audio signal. However, the examiner contends that this concept is well known in the art, as taught Quatieri.

In the same field of endeavor, Quatieri teaches the use of speech coding where coding techniques can be to transmit and receive coded speech (p.595, Fig. 12.1, note speech is received and decoded).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Canfield’s method wherein it teaches receiving an encoded signal, as taught by Quatieri, for coding of a speech signal, which reduces the bit-rate (p. 595, paragraph 1).

Regarding **claims 3, 8 and 12**, Canfield discloses a method wherein the encoded original audio signal is encoded in the frequency domain (frequency domain; column 2, lines 15-34). In addition, Quatieri teaches “the encoded original audio signal is encoded in the frequency domain using one of a plurality of encoding schemes, the method further comprising frequency-domain decoding of the encoded original audio signal” (pp. 595-597, various encoding techniques are discussed including frequency domain techniques [LPC, subband coding, etc] where inverse operations are performed (paragraph 1).

Regarding **claim 4**, Canfield discloses a method according wherein said decoding comprises:

applying an inverse transform to the audio signal (inverse Fourier Transform; column 1, 30-39). In addition, Quatieri teaches “decoding said encoded signal using a decoding scheme corresponding to said one of a plurality of encoding schemes; applying an inverse transform to the encoded audio signal and applying an inverse window function” (see rejection of claim 2; Fig 12.1 includes decoding, p. 595, in the last sentence of paragraph 1, at the receiver the inverse operations are performed).

6. **Claims 2, 7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Canfield in view of Quatieri and in further view of Tanaka (USPN 6,088,313).

Regarding **claims 2 and 7**, Canfield in view of Quatieri disclose a method for changing the speed of an audio signal, but does not specifically teach wherein retrieving frames further comprises:

repeating some of the frames, wherein a desired playback speed is slower than a speed associated with the encoded audio signal; and

skipping some of the frames, wherein a desired playback speed is faster than the speed associated with the encoded audio signal.

Tanaka discloses a method comprising:

repeating (repeat) some of the frames, wherein a desired playback speed is slower than a speed (speed slower) associated with the encoded audio signal (column 4, lines 3-39); and

skipping (skip) some of the frames, wherein a desired playback speed is faster (accelerate the speed) than the speed associated with the encoded audio signal (column 4, lines 3-39), so that the signal can be smooth.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Canfield in view of Quatieri method wherein it repeats and skips, as taught by Tanaka, so that the sound level and the quality of sounds can be maintained by continuing voice sounds in the connecting sections (column 4, lines 3-39).

Regarding **claim 9**, it is interpreted and rejected for the same reason as set forth in claim 4.

7. **Claims 5, 10 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Canfield in view of Quatieri and in further view of Applicant's Admitted Prior Art.

Regarding **claims 5, 10 and 13**, Canfield in view of Quatieri teaches everything as claimed in claim 1. In addition, Canfield teaches the use of a variable for determining playback speed (column 1, line 17 – column 2, line 34), but does not specifically teach “the desired playback speed is a **programmable value**. However, the Examiner takes Official Notice of the fact that the setting of a variable to a predefined [constant or initial] value or allowing it to be adjustable is well known in the art (now Applicant's Admitted Prior Art).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Canfield in view of Quatieri's method, as described above, because such techniques are commonly used in software-based applications.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. N./  
Examiner, Art Unit 2626

/David R Hudspeth/  
Supervisory Patent Examiner, Art Unit 2626